

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (CURRENTLY AMENDED) An electronic signature method comprising the steps of:

analyzing a target document stored in a format representing a tree structure to generate the tree structure of the target document structure in a memory;

generating a file signature code by encrypting said document as a whole and generating electronic signatures corresponding to each structural element of said generated tree structure by encrypting said each structural element; and

concatenating the generated file signature code and the electronic signatures generated from each of said structural element of said tree structure into a single signature corresponding to the tree structure; and

setting a depth code designating a level of the tree structure at which said electronic signatures are to be generated, whereby a level of limitation of a document to be electronically signed can be varied.

2. (CANCELED)

3. (PREVIOUSLY PRESENTED) An electronic signature method according to claim 1, wherein a rate of coincidence between the target document and the target document with an electronic signature is found from a rate of structural elements having authenticated electronic signatures to the whole structure.

4. (PREVIOUSLY PRESENTED) A method according to claim 1, wherein said concatenating step includes putting the generated file signature code and the generated electronic signatures in a row.

5. (CURRENTLY AMENDED) An electronic signature apparatus comprising:

means for analyzing a target document stored in a format representing a tree structure to generate the tree structure of the target document structure in a memory;

means for generating a file signature code by encrypting said document as a whole;

means for generating electronic signatures corresponding to each structural element of said generated tree structure by encrypting said each structural element; and

means for concatenating the generated file signature code and the electronic signatures generated from each of said structural element of said tree structure into a single signature corresponding to the tree structure,

wherein a depth code designating a level of the tree structure which said electronic signatures are to be generated can be set by said means for generating the electronic signatures, whereby a level of limitation of a document to be electronically signed can be varied.

6. (CANCELED)

7. (PREVIOUSLY PRESENTED) An electronic signature apparatus according to claim 5, wherein said means for concatenating puts the generated file signature code and the generated electronic signatures in a row.

8. (PREVIOUSLY PRESENTED) An electronic signature apparatus according to claim 5, further comprising:

means for analyzing the structure of the target document to verify the target document having the generated electronic signature; and

means for analyzing each of the electronic signatures of the structural elements of the target document.

9. (ORIGINAL) An electronic signature apparatus according to claim 8, wherein said means for analyzing the electronic signature determine a rate of coincidence between the target document and the target document with an electrical signature from a rate of structural elements having authenticated electronic signatures to the whole structure.

10. (CURRENTLY AMENDED) An electronic signature apparatus comprising:

an electronic signature generator including:

means for analyzing a target document stored in a format representing a tree structure to generate the tree structure of the target document in a memory;

means for generating a file signature code by encrypting said document as a whole;

means for generating electronic signatures corresponding to each structural element of said generated tree structure by encrypting said each structural element; and

means for concatenating the generated file signature code and the electronic signatures generated from each of said structural element of said tree structure into a single signature corresponding to the tree structure,

wherein a depth code designating a level of the tree structure which said electronic signatures are to be generated can be set by said means for generating the electronic signatures, whereby a level of limitation of a document to be electronically signed can be varied; and
an electronic signature analyzer including:

means for analyzing a structure of the target document having the generated electronic signature; and

means for analyzing the added electronic signatures.

11-12. (CANCELED)

13. (PREVIOUSLY PRESENTED) A method according to claim 3, wherein said concatenating step includes putting the generated file signature code and the generated electronic signatures in a row.

14-16. (CANCELED)

17. (PREVIOUSLY PRESENTED) An electronic signature apparatus according to claim 7, further comprising:

means for analyzing the structure of the target document to verify the target document having the generated electronic signature; and

means for analyzing each of the electronic signatures of the structural elements of the target document.

18. (CANCELED)

19. (PREVIOUSLY PRESENTED) An electronic signature apparatus according to claim 17, wherein said means for analyzing the electronic signature determine a rate of coincidence between the target document and the target document with an electrical signature from a rate of structural elements having authenticated electronic signatures to the whole structure.

20. (CANCELED)